

Work Order ID 122864

Tuesday, July 29, 2014 2:24:40 PM

122864

Page 1

Item ID: D3688-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Stud
Start Date: 7/29/14 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 7/29/14 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3688	Rev D								
100	BAND SAW	0.00							
100									
Bandsaw	Memo	0.00							
Jeaspa Bandsaw	***DO NOT USE CHOP SAW***								
	Cut blank 11.673" long								
110	DOOSAN LATHE	0.00							
110									
Doosan	Memo	0.00							
Doosan Lathe	1-Turn as per Folio FA718 Rev: <u>N/A</u> & Dwg D3688 Rev: <u>D</u> 2-Deburr per dwg D3688								
	3-Check .625" bore with DT9530 GO/NO GO Gauge								
120	QC2- Inspect parts off machine FAI/FAIB	0.00							
120									
QC	Memo	0.00							
Quality Control									

Handwritten notes and stamps:

- 4 6
- 4 14-10-26
- 4 14-10-26

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Page 2

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	QC8- Inspect parts - second check	0.00							
170									
QC	Memo	0.00							
Quality Control	100% CHECK,CHECK ALL DIMENSIONS AND THREAD FIT								
180		0.00							
180	PURCHASING								
Purchasing	Memo	0.00							
Purchasing	Issue P/O: <u>26 273</u> LPI Per ASTM 1417 LEVEL 2Certificate of conformaty is required								
190	Receive & Inspect for Damage & Mat'l Certs	0.00							
190									
Packaging	Memo	0.00							
Packaging	Ensure certificate of conformity is attached								

cm 14/10/27

CA 14/10/29 4

4X 8/14/10-30

DQA: _____ Date: _____



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200	QC5- Inspect part completeness to step on W/O	0.00							DAS 38 9-89
200									
QC	Memo	0.00							
Quality Control									OCT 3 1 2014
210	Identify as per dwg & Stock Location: <u>51230B</u>	0.00							
210									
Packaging	Memo	0.00							
Packaging	ATTN: HAVE ALL DEVIATIONS (W/O CHANGE/NCR) SIGNED OFF PRIOR TO STOCKING								
220	QC21- Final Inspection - Work Order Release	0.00							
220									
QC	Memo	0.00							
Quality Control									

DAS
38
9-89

4

OCT 3 1 2014

14/11/3

10-10-31

DQA: _____ Date: _____



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Design									
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Picklist Print

Tuesday, July 29, 2014 2:24:39 PM

Page 1

Work Order ID: 122864

122864

Parent Item: D3688-1

D3688-1

Parent Item Name: Stud

Start Date: 7/29/14

Required Date: 7/29/14

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:A New Issue 08-01-29 JLM Verified By:EC
IPP Rev:B Material Change 09-01-07 JLM Verified By:EC
IPP Rev:C Added note on Step 2 09-01-26 JLM Verified By:EC
IPP REV:D 10.07.06 revo step 130-160 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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M174PH-H900R1.000

Purchased

No

100

f

70.1400

1.087

5

M174PH-H900R1 000

**

SL 14-10-26

17-4SS H900 ROUND BAR 1.00

Location

Loc Qty

Loc Code

MAT031

70.14

m126952

19.3

m127334

2.84

m128314

48

4.4

DQA: _____ Date: _____



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Doc/Data									
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DART AEROSPACE LTD		Work Order: 123810A
Description: Stud		Part Number: D3688-1
Inspection Dwg: D3688	Rev: D	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.695	+/-0.010	0.695	/		Vern	SL-10
0.625 1.23	+0.004/-0.000	0.624	/		g-pin	
1.25	+0.000/-0.03	1.239	/		Vern	-
118°	0.5°	118°	/			
R0.03	+/-0.030	0.03	/			
0.11 Ref	+/-0.030	0.11	/			
90°	0.5°	90°	/			
Ø0.189 216	+0.005/-0.001	0.187	/		Vern	
1.31	+/-0.030	1.300	/		~	
1.65	+/-0.030	1.640	/		~	
0.870	+0.000/-0.010	0.864	/		Vern	
Ø0.659	+0.000/-0.015	0.650	/		~	
11.573	+/-0.015	11.572	/		~	CNC-02
2.90	+/-0.030	2.900	/		~	SL-10
3/4-16UNF-2A	N/A		/			
0.075 x 45°	+/-0.010 x 0.5°	0.085 x 45°	/		~	
0.370	+0.000/-0.010	0.364	/		Vern	
Ø0.189 216	+0.005/-0.001	0.187	/			
R0.25	+/-0.030	0.25	/			
R0.50	+/-0.030	0.50	/			

Measured by: SL	Audited by: [Signature]	Preliminary Approval:
Date: 14-10-26	Date: 14/10/27	Date:

Rev	Date	Change	Revised by	Approved
A	09.05.11	New Issue	KJ	
B	09.11.04	Dwg Rev updated	KJ	
C	13.02.27	Dwg Rev updated	KJ	[Signature]

ITEM	QTY -047	P/N	DESCRIPTION
1	X	D3688-047	STUD ASSEMBLY
2	1	D3688-7	STUD
3	2	HL32PB8-11	HI-LOK PIN
4	2	HL86-8	HI-LOK COLLAR
5	1	D3693-3	ROD END BEARING

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 10000A
7/29/14 wmm

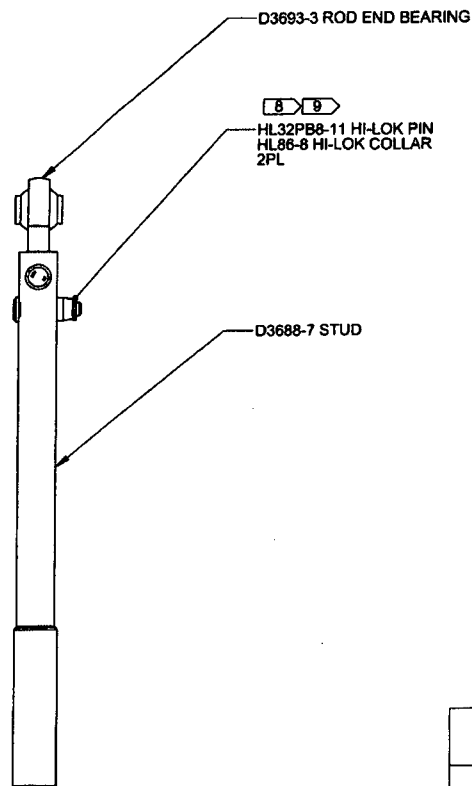


△

D3688-047 STUD ASSEMBLY

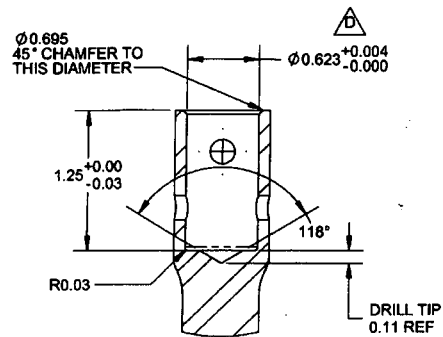
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART ASSEMBLY P/N D3688-047 PER DART QSI 044 6.6 (REMOVABLE TAG AND POLY BAG)
- 7) WEIGHT: 1.03 lbs
- 8) ALIGN THE PILOT HOLES IN D3693-3 WITH PILOT HOLES IN D3688-7. DRILL OUT EACH HOLE USING A P/N 13-420 PILOTED DRILL (0.2314 DIA./0.2158 PILOT). REAM EACH HOLE USING A P/N 44-300 STEP REAMER (0.247 DIA./0.2314 PILOT). CLEAN AND DEBURR ALL HOLES PRIOR TO ASSEMBLY.
- 9) ASSEMBLE D3693-3 WITH D3688-7 USING HYSOL EA934NA OR MAGNOBOND 6398 ADHESIVE BETWEEN MATING SURFACES.

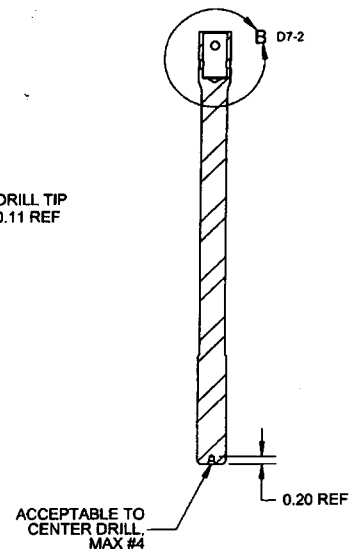


RELEASED
2013-01-22

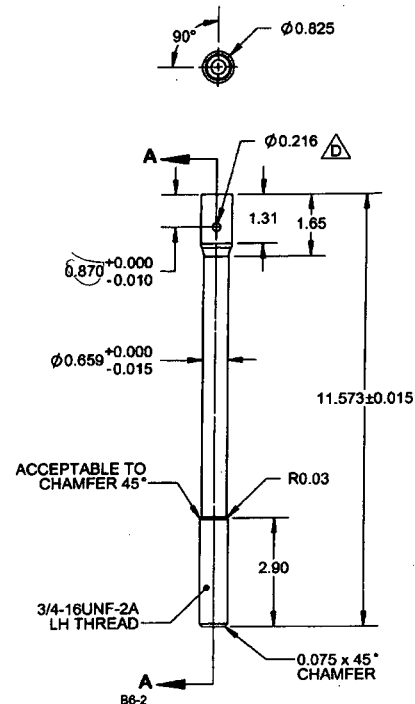
D	ADD D3688-047 STUD ASSY; Ø0.216 PILOT HOLE WAS Ø0.189 (ZN D2-2, D4-2, D2-3, D3-3, D5-4, D4-4, D2-5, D3-5); Ø0.623 WAS Ø0.625 (ZN D7-2, D7-3, D7-4). RE-FORMAT NOTES SECTION AS PER QSI 043 (ZN A8-1); REF NCR12-2074	DB	12.12.05
C	0.20 WAS 0.16 (ZN B5-1, B5-2, B6-3, B5-4); CENTER DRILL #4 WAS CENTER DRILL #2 (ZN B6-1, B6-2, B6-3, B6-4); UPDATE NOTE 8 TO REF QSI (ZN A8-1, A8-2, A8-3, A8-4)	RF	09.09.09
B	CHANGE TO 17-4PH H-300 (ZN A8-1, A8-2, A8-3, A8-4); REDUCE LENGTH ON D3688-1 FROM 12.073 TO 11.573 (ZN C3-1) BASED ON PROTOTYPE INSTALL; Ø0.895 WAS Ø0.895 (ZN D8-1, D8-2, D8-3); Ø0.508 WAS Ø0.478 (ZN D8-4); REFORMATTED TO CURRENT DWG STANDARDS	RF	08.11.24
A	NEW ISSUE	RF	08.05.22
REV.	DESCRIPTION	BY	DATE
DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	DB		
CHECKED	MB	DRAWING NO.	REV. D
MFG. APPR.	JLM	D3688	SHEET 1 OF 5
APPROVED		TITLE	SCALE
DE APPR.		STUD	NTS
DATE	12.12.05	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR FOR THE COMMUNICATIONS TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



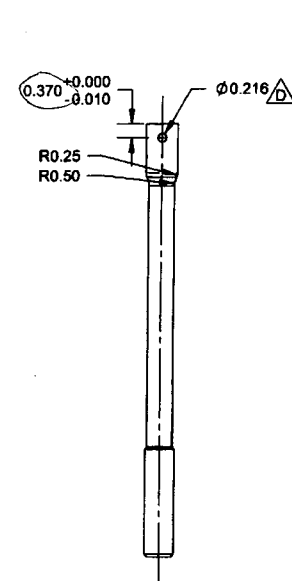
DETAIL B D8-2
SCALE 3X



SECTION A-A
B4-2



D3688-1 STUD

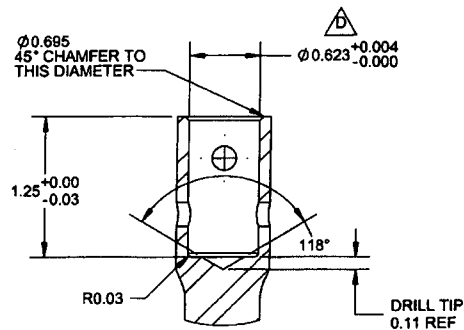


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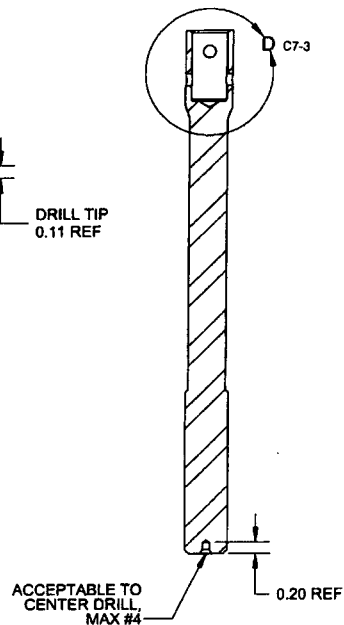
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.24 lb
- 8) LPI PER QSI 038 4.1.1 (ASTM E1417 LEVEL 2)

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	DB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	MB	DRAWING NO.	REV. D
MFG. APPR.	JLM	D3688	SHEET 2 OF 5
APPROVED	1/10	TITLE	SCALE
DE APPR.		STUD	NTS
DATE	12.12.05	<small>COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

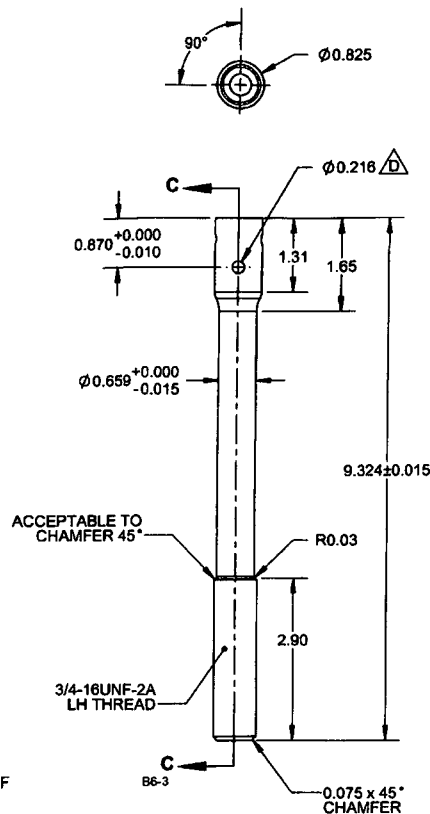
RELEASED
2013-01-22



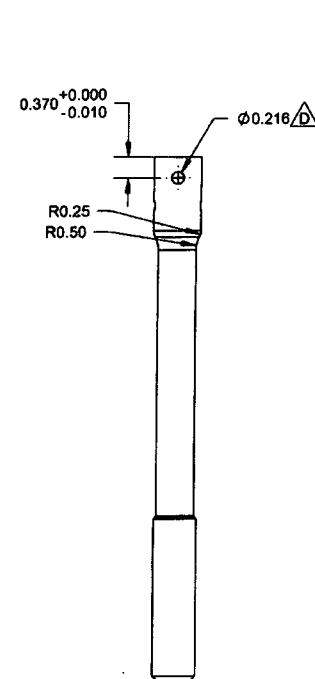
DETAIL D D6-3
SCALE 2X



SECTION C-C
D4-3





D3688-3 STUD

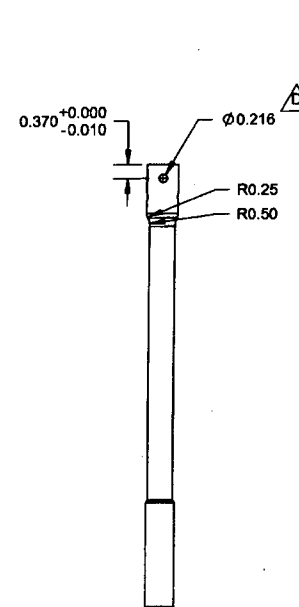
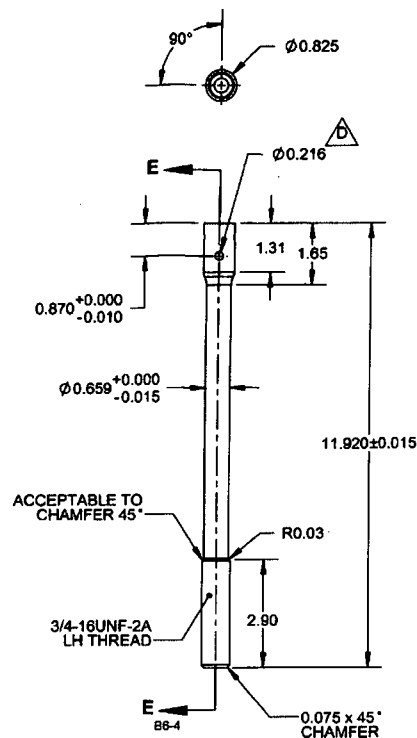
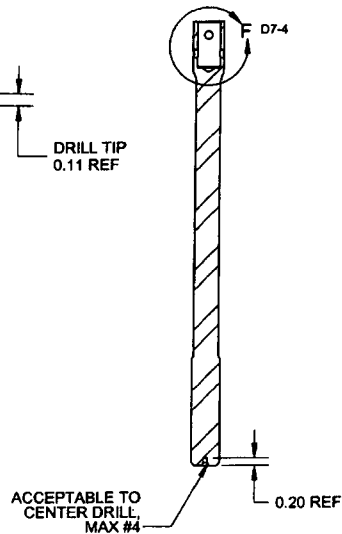
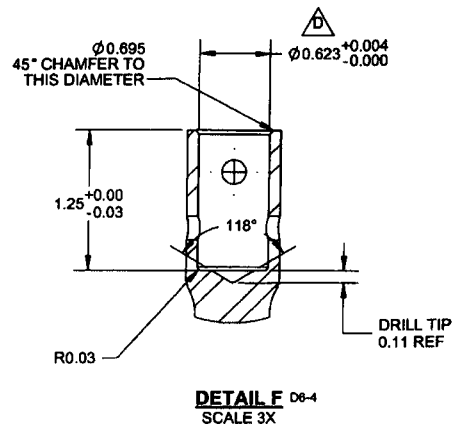


RELEASED
2013-01-22

NOTES:

- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.97 lb
- 8) LPI PER QSI 038 4.1.1 (ASTM E1417 LEVEL 2)

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	DB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	MB	DRAWING NO.	REV. D
MFG. APPR.	JLM	D3688	SHEET 3 OF 5
APPROVED		TITLE	SCALE
DE APPR.		STUD	NTS
DATE	12.12.05	COPYRIGHT © 2006 BY DART AEROSPACE LTD	
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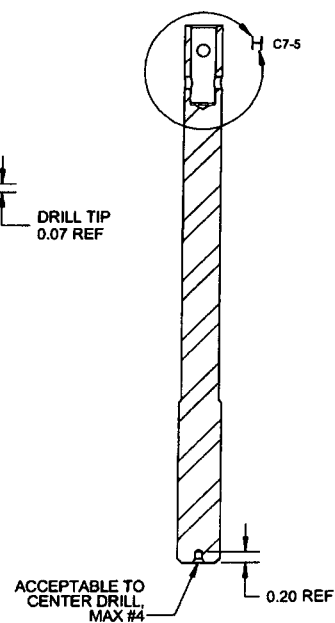
NOTES:

- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.22 lb
- 8) LPI PER QSI 038 4.1.1 (ASTM E1417 LEVEL 2)

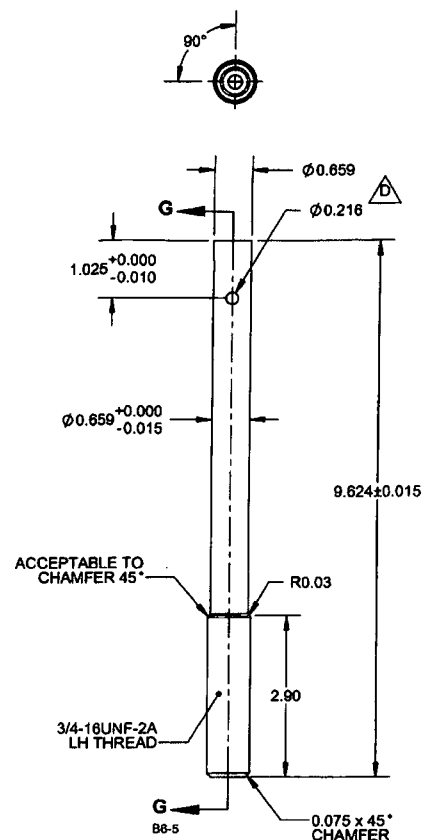
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	DB		
CHECKED	MB	DRAWING NO.	REV. D
MFG. APPR.	JLM	D3688	SHEET 4 OF 5
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	STUD	NTS
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RELEASED
2013-01-22

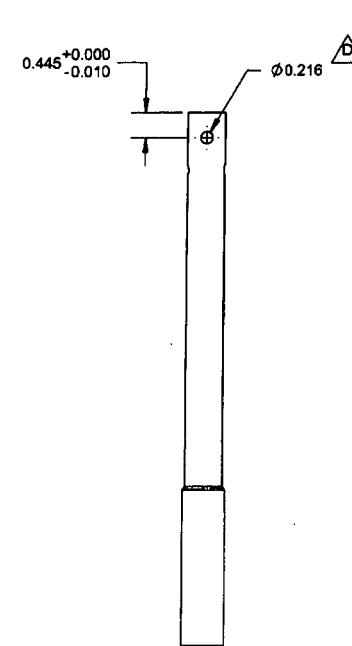
DETAIL H D6-5
SCALE 2X



SECTION G-G B4-5



D3688-7 STUD



RELEASE
2013-01-22

- NOTES:**
 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
 2) FINISH: NONE
 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 6) IDENTIFICATION: NONE
 7) WEIGHT: 0.96 lb
 8) LPI PER QSI 038 4.1.1 (ASTM E1417 LEVEL 2)

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D3688 TITLE STUD COPYRIGHT © 2008 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUBJECT TO THE EXPRESS CONSENT THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.</small>	REV. D
DRAWN	DB		SHEET 5 OF 5
CHECKED	MB		SCALE
MFG. APPR.	JLM		NTS
APPROVED	<i>[Signature]</i>		
DE APPR.	<i>[Signature]</i>		
DATE	12.12.05		

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO26273

Purchase Order Date 10/28/2014

PO Print Date 10/29/2014

Page Number 7 of 8

Order From :
SKYSERVICE
6120 MIDFIELD ROAD
MISSISSAUGA, ONTARIO L5P 1B1
CANADA

VC-SKY001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 905-678-5636

Ship To Contact
Ship To Phone
Ship Via: Delivered
Ship Acct:

Buyer
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FCA - (Free Carrier)

Line Total:

18	124889	D407-667-205RLC CROSSTUBE	10/29/2014	1.00	\$98.53
			Yes		
			4 7:07:00 AM		
	AS ABOVE				

Line Total:

19	122754	D3691-1 STUD	10/29/2014	6.00	\$16.42
			Yes		
			4 7:07:00 AM		
	AS ABOVE				

Line Total:

20	122864	D3688-1 STUD	10/29/2014	4.00	\$24.63
			Yes		
			4 7:07:00 AM		
	AS ABOVE				

Line Total:

Note:

10/29/2014

8914-10-30



skyservice Work Order Traveler

Sky Service F.B.O. Inc.

DOT APP 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO22577	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: 26273
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 2

Work Required:


CARRY OUT NDT INSPECTION (LIQUID PENETRANT) ON 18 MISC PARTS

ID#: DD3691-1 STUD (QTY 6)
1 - WORK ORDER ID#: 122754

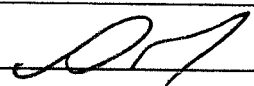

ID#: DD3688-1 STUD (QTY 4) ✓
2 - WORK ORDER ID#: 122864

ID#: DD3691-1 STUD (QTY 8)
3 - WORK ORDER ID#: 123160

8/14-10-30

Action Taken:					Date:	Initial/Stamp:
LIQUID PENETRANT INSPECTION CARRIED OUT ON ITEMS LISTED ABOVE (ITEMS 1-7) AS PER ASTM1417M-13					OCT 28 2014	 DOT APP 177 53-89
NO CRACK FOUND						
Pen: ZL-56 BATCH# 09H094 EXP. DATE: AUG 2014, DEV: SKD-S2 EXP. DATE: OCT2017 CLEANER: SKC-S EXP. DATE: APR 2018						
Description	Location	P/N	Qty	Batch	S/N Off	S/N On
			DAS			
			36			
			9-89			
			OCT 31 2014			

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	 ANTONINO MARCHETTA	ACA/SCA Stamp	Date:
Name:			OCT 28 2014